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E- PAYMENT: NECESSITY OF CASHLESS ECONOMY

Dr. Bindu Jain*
Ms. Rashmi Bansal**

ABSTRACT

When use of cash is non-existent in trading and all transaction is done by electronic payment then economy is called cashless economy. Electronic payment is a system in which user can make payment of goods and services without physical transfer of cash and cheque irrespective of time and location. Electronic payment is financial exchange between seller and buyer that take place online in form digital financial instrument such as debit cards, credit cards, digital wallets, PoS (point of sales) machine. National payment system of a country is driven by the central bank of the respective country. Reserve Bank of India is playing a key role in promoting e payments and has taken several steps to provide safe, efficient, accessible, secure, sound and authorized e payment system in country. In this paper an attempt has been made to study role of e payment system for leading India economy towards cashless economy. Purpose of this paper is to study different methods of e payment system, advantage/disadvantage, importance for making cashless economy.

***KEYWORDS**: Electronic payment, AEPS, PoS, Cashless Economy, Digital Wallets, Financial Instrument.*

Introduction

A country's payment system is what makes its real and financial markets work. When commodities are exchanged for cash, check, credit/debit cards than trades expand and transaction costs reduce. Over years, many variants have been introduced for payment system e.g. cash as coins, cash as paper currency, cheques, paper based credit card payment. All this was before electronic payment system was introduced. Electronic system is a way of making transaction or paying for goods and services without use of cash and check, payment is done through an electronic medium. In Cashless economy, no paper currency and liquid money is used by the people in transactions. But India is country where ratio of cash to gross domestic product is 12.42% in GDP, which is one of the highest in world. Less than 5% transactions are done by electronic system. Further the number of currency notes in circulation is also so far higher than in other large economies. To achieve cashless economy, electronic payment system has to promote. There are several problems with traditional way of payment:

- Lack of convenience: In traditional system user has to either physically present or send paper via mail before performing a transaction.
- Lack of security: Carrying paper currency from one place to another is not safe and sometime user has to send confidential data on paper which is not encrypted.
- Lack of Coverage: In globalization world, it is difficult to work with traditional payment method where business has no boundaries of city, state and country.

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* Associate Professor, (& Vice Principal of University Maharani College) Department of Business Administration, Faculty of Commerce, University of Rajasthan, Jaipur, Rajasthan, India.

** Research Scholar, Department of Business Administration, Faculty of Commerce, University of Rajasthan, Jaipur, Rajasthan, India.

Literature Review

In the last two decades, electronic payment systems have attracted much attention from researchers and information system designers due to their vital role in modern electronic commerce and cashless economy. Being an important research topic, there have been various researches on role, advantages, different mode, security and safety of e payment. Some of researches have brought here from internet search to review. Electronic business methods enable companies to link their internal and external data processing systems more efficiently and flexibly, to work more closely with suppliers and partners, and to better satisfy the needs and expectations of their customers. E Business refers to more strategic focus with an emphasis on the functions that occur using electronic capabilities. **(Yen-Yi, 2006)**

According to (Melao, 2008) the clear commonalities among these definitions, include the improvement of business processes and the use of ICT in intranets, extranets and the Internet to conduct business. He defines e-Business as the use of ICT as an enabler to (re)design, manage, execute, improve and control business processes both within and between organizations. Thus, front and back-office integration and multi-channel integration become crucial in e-Business, which requires a challenging process improvement approach to support the necessary organizational, technological and social changes.

Teoh, Chong, Lin, and Chua (2013) viewed e-payment as any transfer of an electronic value of payment from a payer to payee through an e-payment channel that allows customers to remotely access and manage their bank accounts and transactions over an electronic network.

E-payment systems are payments made in electronic commerce environment in the form of money exchange through electronic means **(Kaur & Pathak, 2015).**

The Stages theory has been widely used as a way of examining the adoption and progression of various aspects of electronic business in organizations. The main assumption of the Stages theory is that organizations progress towards electronic business through a number of clearly defined and successive stages or phases. Each adoption stage or phase is characterized by the existence of distinctive applications, benefits and problems while it reflects a particular level of maturity in terms of the use and management of Information Systems and Information Technologies **(Taylor and Murphy, 2004)**.

In another perspective, **Peter and Babatunde (2012)** viewed e-payment system as any form of fund transfer via the internet. Similarly, according to Adeoti and Osotimehin (2012), electronic payment system refers to an electronic means of making payments for goods and services procured online or in supermarkets and shopping malls. Another definition suggests that e-payment systems are payments made in electronic commerce environment in the form of money exchange through electronic means (Kaur & Pathak, 2015).

Annamalai, S. and Muthu R. liakkuvan (2008) in their article "Retail transaction: Future bright for plastic money" projected the growth of debit and credit cards in the retail transactions. They also mentioned the growth factors, which leads to its popularity, important constraints faced by banks and summarized with bright future and scope of plastic money.

Ashish Das, and Rakhi Agarwal, (2010)in their article "Cashless Payment System in India-A Roadmap" Cash as a mode of payment is an expensive proposition for the Government. The country needs to move away from cash-based towards a cashless (electronic) payment system. This will help reduce currency management cost, track transactions, check tax avoidance / fraud etc., enhance financial inclusion and integrate the parallel economy with main stream.

Jain, P.M (2006) in the article "E-payments and e-banking" opined that e-payments will be able to check black"-An Analysis of Growth Pattern of Cashless Transaction System. Taking fullest advantage of technology, quick payments and remittances will ensure optimal use of available funds for banks, financial institutions, business houses and common citizen of India. He also pointed out the need for e-payments and modes of e-payments and communication networks.

Research Methodology

The specific types of information and/or data needed to conduct a secondary analysis will depend on the focus of study. For this research purpose, secondary data analysis is usually conducted to gain in-depth understanding of the e payment system. Secondary data review and analysis involves collecting information, statistics, and other relevant data at various levels of aggregation in order to conduct a requirement analysis of the payment system and mostly the paper is based on the information retrieved from the internet via journals, research papers and expert opinions on the same subject matter.

Objective of the Paper

With new innovations in information and communication technology the devices and processes range to transact electronically continues to increase while the cash and check transactions percentage continues to decrease. The Internet system has become the active trade intermediary system within short span of time. Also, Electronic payment may revolutionize retailing by making consumers to sit in their homes, offices and buy a different products and items from all over the global system. Many customers are still wary of conducting extensive business and transactions electronically even though it is secure. The purpose of this paper is to study the importance and different modes of e payment system which will play a key role to lead Indian economy towards cashless economy.

E-Payment System

Commonly electronic payments interpreted as online transactions on the internet system. But online payment is just one form of e payment. There are actually many forms of electronic payment systems. As technology system is developing, the devices and processes range to transact electronically continues to increase while the cash and check transactions percentage continues to decrease. In banking system, one can open account and keep money safe. This money can easily be transfer in another account but this was use for large transactions. But a way needs to find for small transactions. So cheque was introduced to transfer low amount from one account to other account. Thus a system consisting of the cheque as the payment instruments and an infrastructure around the cheques consisting of the drawee bank, the drawer bank and the cheque clearing houses came on the scene and were known as the payment systems.

In today's world everything demands things to be done in real time, fast, safe and secure. With help of new technology in information and communication system, we have found new payment instrument which are fast, safe, accurate and secure. Various types of payment instruments exist to meet the requirements of different users in different circumstances-bank accounts, cheques, debit and credit cards, prepaid payment instruments, etc. There are various systems to meet the remittance requirements of users depending upon their time criticality and cost sensitivity-National Electronic Funds Transfer (NEFT), Immediate Payment Service (IMPS), Aadhaar Enabled Payment System (AEPS) and recently Unified Payments Interface. The need for making bulk and repetitive payments is met by systems such as Electronic Clearing Service (ECS), National Automated Clearing House (NACH) and Aadhaar Payment Bridge System (APBS).

In e-payment system customer needs to fill the credit or debit card details such as card number, card expiry date, CVV (Card Value Verification Code) in the payment gateway during the payment. These customer details can be misused by the employees of the third party website. Identifying theft and phishing are the common attacks on E-payment system. The attackers might create the credit or debit cards with the same data of another customer. In 2012 consumer information was misused for an average of 48 days as a result of identity theft. In 2nd quarter of 2013, Payment Service, Financial and Retail Service are the most targeted industrial sectors of phishing attacks. The E-payment security protocols such as Secure Sockets Layer (SSL), Secure Electronic Transaction (SET) Internet Open Trading Protocol (IOTP) provide the secure connection between the customer and merchant. But still we need to believe the third-party website which provides the E-payment service for the customer. The working of the E-payment system is shown in the fig.1

Types of E-payment

Electronic payment refers to paperless monetary transactions. Electronic payment has revolutionized the business processing by reducing paper work, transaction costs, labour cost. Being user friendly and less time consuming than manual processing, helps business organization to expand its market reach / expansion. Some of the modes of electronic payments are following:

- Debit cards
- Credit cards
- Smart cards
- E-cash
- E-wallet
- UPI
- Aadhaar Card

- **Debit Card:** It is a plastic card which user gets with his/her bank account. Debit card has a unique number and PIN which user needs to enter while using Debit card. In payment with debit card,

amount gets deducted from user's bank account. User has to make sure that balance should be available in account before using debit card. There is no fee on using debit cards.

- **Credit Card:** It is also plastic card issued to customer from bank to lent money for purchase goods or services. Credit cards can be issue without having account in bank. There is fix limit on amount can be expend using credit card. Like debit card this card also have unique number and PIN. User needs to pay charges to bank for using credit card.
- **Smart Card:** A smart card was first produced in 1977 by Motorola. It is a thin, credit card sized piece of plastic which contains a half-inch-square area that serves as the card's input-output system. A smart card contains a programmable chip, a combination of RAM and ROM storage and can be refilled by connecting to the bank. It is known as smart card because the ability of chip to store the information in its memory makes the card smart.
- **E-Cash:** User buys e-cash from Bank. Bank sends e-cash bits to user after charging that amount plus fee. User sends that e-cash to other party for payment. Party sends this e-cash to bank to check validity. Once bank verifies party complete the transaction. Cyber cash is recent example of e cash. Cyber cash is a web based service that automatically processes and verifies customer's credit card information then debiting the customer's account and crediting the merchant's account electronically. Cyber cash servers act as a gateway between the merchant on the internet and bank's secure financial network. For the purpose of security in electronic payments system this system uses the digital signatures.
- **E-wallet**; E-wallets is a technology that allows user to make payment via using electronic device. In e-wallet user can stores credit card information or linked up with his/her bank account. It can also hold driving license, health card and other IDs. These credentials can be passed to merchant's terminal wirelessly.
- **UPI:** UPI also known as Unified Payments Interface is another great way to go cashless. Unified payments interface also called UPI is system of payments. Using unified payments interface, people can transact using their smart phones. To pay using this system called unified payments interface, you need 2 important things: Smartphone and a Bank Account.
- **Aadhaar Card:** Aadhaar Card enabled payment system allows a person to pay using his Aadhaar card if it is linked to his bank account. Once you link your Aadhaar card to your bank, you can make payments using your finger prints.

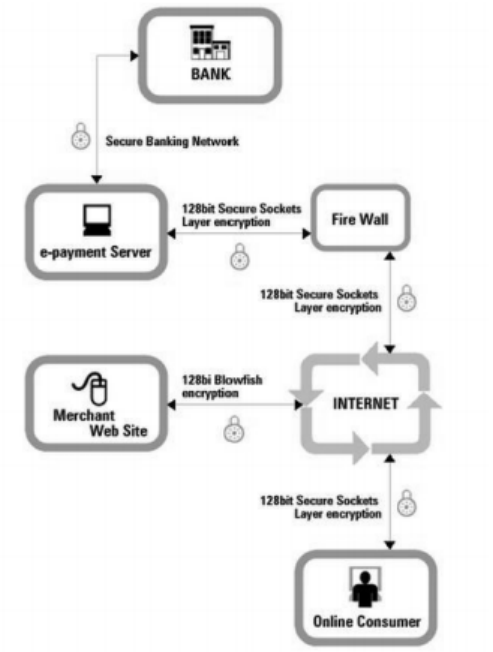

Fig 1: The working of E-payment system

Importance of E-Payment System

In the Age of High Technology cash strives to endure the competition with electronic money, because more and more people prefer to have virtual wallets. Many large organization are reaping the benefits of electronic payment system which includes:

- **Time saving**: A very first advantage of e payment system is time saving. This is very fast as user does not need to go bank or go to merchant for payments. It takes few minutes which is faster than postal or wire transfer.
- **Less risk of theft and loss**: In e payment system, user does not need to carry currency from one place to another so there will be less risk of theft and loss.
- **Enhance security**: An electronic payment system is highly secure, safeguarding cardholder data and preventing payment fraud better than paper-based payments can achieve.
- **Convenient and user friendly**: With e payment system, user can purchase goods and services and make payment anytime, anywhere.
- **Greater Visibility into financial supply chain**: With access to reports and comprehensive corporate financial history, an electronic payment system gives management and other authorized users easy access to snapshots and detailed reports to improve decision-making and process efficiency.

Limitation of E-Payment System

Every system comes with its own advantage and disadvantage. E-payment system has several benefits but it also has some limitations which can be sought out with little more efforts to make e payment system perfect for our economy. Following disadvantage should keep in mind while using e payment system.

- **Higher Cost:** Some organizations and Banks charge fee while using e payment services. This fee varies from vendor to vendor. This fee comes in form of set up system, annual fee, minimum number transaction to be done in a year/month, minimum amount of per transaction. This fee increased cost of transaction.
- **Security Risk:** E-payment system is convenient in many ways but with this convenience it also imposes security risk in many forms. Following risk should be considered while using e payment system:
  - **Password Threats:** User needs to get registered and set password while using services for a website. Threat of this password can lead to misuse of user personal details and bank information. Now a day, many websites are using one time password (OTP) facility to reduce risk of password hacking.
  - **Being Hacked**: for using electronic services user needs to provide personal details, account/card detail to electronic system. If this electronic system is hacked, hacker can misuse personal identities for fraudulent activities or transfer money from account. This risk can be reduced by using appropriate security system and firewall.
  - **Anonymity**: User personal detail, transaction detail like amount, time, place, date all stored in electronic system. This will lead risk of anonymity. Cases of identity theft have raised privacy concerns in electronic payments. This risk can be reduced by using proper firewall and security system.

Conclusion

Electronic payment system means no physical currency, no paper work for payments. E-payment system allows two or more parties to transact and exchange monetary value via electronic means which includes debit cards, credit cards, smart cards, e-wallet etc. Electronic transactions are more convenient than traditional payment system as no cash is required in E payment system. The cashless transaction growth is increasing rapidly day by day, as banking system and government is prompting and supporting e payment transaction to achieve goal of cashless economy. Cashless system is need of today's society as it is base of online market, fast, secure and safe. Nevertheless, e payment system will lead Indian economy to cashless economy.

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